

A trip to the Province of Matanzas we found to be most interesting. The so-called mountains contained a large list of species and they were easy to collect. It reminded me of the old days years ago, when we used to go berry-picking. For hours one could walk along the face of the cliffs, and there was always enough in sight to keep up plenty of enthusiasm, until one was so completely tired out he was ready to quit. I had a young farmer with me from Indiana, a typical Hoosier, never outside of his county before, and he declared he never was so tired in his life. I will venture to predict that after tramping over a part of the three provinces of Cuba after snails, he will have more to tell his rural friends than the average tourist. His remarks about the country and people from day to day were a constant source of amusement, especially when he was unable to get a thing to eat, in the midst of plenty. A little smattering of Spanish is a good thing to take along with you when visiting a Spanish country. My little guide-book was sometimes more precious than gold, for we were in several towns where we could not find a person who spoke a word of English, and we were equally as ignorant of Spanish.

Not feeling at all sure that the editor of THE NAUTILUS will care for such a rambling article, I will refrain from further notes; but if any reader contemplates a trip to some of the classic collecting grounds of the West Indies, I will be pleased to give them such information as I can, which will help to make the trip a source of pleasure and successful as well.

THE CLASSIFICATION OF THE EUROPEAN NAIADES.

BY DR. A. E. ORTMANN.

Through the courtesy of Mr. W. Israël in Gera-Untermhaus, Germany, I have received a great number of European Naiades with soft parts, representing practically all species known to occur in central Europe. I do not presume to judge on the validity of the numerous species described by certain European writers, but rely in this respect on the opinion of the conchologists like Kobelt, Haas, Thiele, Israël, and others, chiefly since they are at present rather unanimous in assuming only a limited number of species, divided into a larger or smaller number of forms, races or varieties. The chief object of

the present communication is to point out the essential features of the anatomy, as far as they are of systematic value. This I deem an urgent necessity, since to all appearance the anatomy and the systematic relationship of the European forms is not very well understood among the European writers.

Family MARGARITANIDÆ Ortmann.

The chief differences of this family are found in the incomplete gill-diaphragm; in the entire lack of a tendency to approach or to unite the mantle margins to form siphons; in the structure of the gills, which lack regular septa running parallel to the gill-filaments, and consequently, in the lack of the well-defined water-tubes (ovisacs in the female); in the marsupium being formed by all four gills; and in the small size and globular shape of the glochidium, without true hooks.

The only known genus is *Margaritana* Schumacher.

Margaritana margaritifera (Linnæus). I have the soft parts of a specimen from Thuringia (Elster River drainage).

The soft parts agree in all essential points with North American specimens of this species collected by myself in Schuylkill Co., Pa. I have considered the identity of the species as established.

Margaritana sinuata (Lamarck). This species is not before me. It is the *Margaritana crassa* of Simpson (P. U. S. Mus. 22, '00, p. 667). The mistake of Simpson in using the specific name *crassus* Retzius for this species has been amply demonstrated by Kobelt (Zur Kenntnis unserer Unionen, in: Festschr. 100-jähr. Best. Wetterauisch. Ges. Naturk. Hanau, 1908, p. 99, and: Simpson und die europaischen Najaden, in: Beitr. Kenntn. mitteleurop. Naj., Beil. Nachr. Bl. deutsch. malakozool. Ges. no. 3, 1909, p. 43). Recently, Haas (Nachr. Bl. etc., 4. 1910, p. 181) has created the new genus *Pseudunio* for this species, and gives a description of the soft parts. Unfortunately he fails to say anything about the gill-structure. But as far as this description goes, it is absolutely identical with that of the soft parts of *Margaritana margaritifera*, and the few differences of these two species pointed out by Haas I cannot regard but as specific differences. Haas apparently overestimates the differences, while he underestimates the resemblances, aside from neglecting entirely one of the most important characters (gill structure).

Much stress is laid upon the presence of lateral hinge teeth in

Margaritana sinuata. but I see no reason, why there should not exist species of *Margaritana* with hinge teeth, in fact, this is a logical postulate, if *Margaritana* in general is a primitive genus. Similar cases of genera containing species both with and without lateral teeth are met with, for instance, in *Alasmidonta* and *Symphynota*. Thus *Pseudunio* is to be regarded as a pure synonym of *Margaritana*, and has nothing whatever to do with *Unio*. Of course, the gill structure is yet unknown, but we have every reason to expect, that it will prove to be like that of *Margaritana margaritifera*, or will be very close to it.

Family UNIONIDÆ d'Orbigny (restr.)

This family has the following characters. The gill-diaphragm is complete; there is a tendency to approach the mantle margins at the point where the gill diaphragm reaches the mantle margins, and a tendency to unite these margins above the anal opening, so as to form an incomplete anal siphon, and leave, above it, a supraanal opening (This tendency is absent in a few North American types). The gills always have well-defined septa running parallel to the filaments, thus forming more or less regular water-tubes. In the female, in the marsupial gills, these water-tubes become ovisacs, and are much narrower than they are in the non-marsupial gills of either sex. The marsupium is formed either by all four gills, or only by the outer gills, or parts of the latter. The glochidium has various shapes, with or without hooks.

(To be concluded.)

BOSTON MALACOLOGICAL CLUB.

The Boston Malacological Club has just closed a most interesting season of meetings. With a membership of about thirty, the attendance has averaged twenty or more. It has been a matter of surprise to the members to see the diversity of subjects well handled by the different speakers. An idea can be had from the following as examples. Dr. Paul Bartsch on Collecting in the Philippines; Mr. F. N. Balch on Nudibranchs; Mr. C. W. Johnson on Distribution and variation of *Busycon* and *Melongena*; Mr. D. L. Belding on Economic forms in Mass.; Mr. Arthur Way on The Life of Say. Prof. Morse on Eyes in Lamellibranchs and other topics; Mr. Winkley on Mollusca and Changed Climate. We have also had exhibited interesting letters, photographs, drawings and specimens.

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